

VOZDVIZHENSKIY, B.I.; L. LUKIN, A. A.; ZIL'BERMAN, B.I.

Conducting mechanical logging using INS apparatus in the border of holes in coal deposits. Izv. vuz. ucheb. zav.; geol. i razv. 7 no.6:123-126 Ja '64. (MIRA 15:7)

1. Moskovskiy geologorazvedochnyy Institut imeni S. Ordzhonikidze i Tsentral'noye konstruktorskoye byuro Gosudarstvennogo geologicheskogo komiteta.

GELLER, Boris Petrovich; KUZIN, Mikhail Yakovlevich; LOSHCENKOV,
Vadim Yakovlevich; LEVITSKIY, Bentsion Aronovich;
ALEKSEYEV, V.K., spets. red.; VOLOSHCHENKO, Z N., red.

[Financing and calculations in construction; consultations
and explanations] Finansirovanie i raschety v stroitel'stve;
konsul'tatsii i raz'iasneniia. Kiev, Budivel'nyk, 1964. 199 p.
(MIRA 17:10)

1. Ukraine. Gosudarstvennyy komitet po delam stroitel'stva.

1954, 1955.

Dissertation: -- "Study of the Motion of Waters Ascending to the Top of a Noncharged Surface Spring." Ind Tech Sci, Kiev Politechnic Inst, Kiev, 1954. (Referativnyi Zhurnal--1954, 1955, Jan. 31)

SO: Sov 312, 23 Dec. 1954

SOV/124-57-5-5551

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 63 (USSR)

AUTHOR: Levitskiy, B. F.

TITLE: A Study of the Pressure Distribution in the Region of the First Half Wave of a Surface Jump (Izucheniye raspredeleniya davleniya na uchastke pervoy poluvolny poverkhnostnogo pryzhka)

PERIODICAL: Dokl. L'vovsk. politekhn. in-ta, 1955, Vol 1, Nr 2, pp 48-50

ABSTRACT: An account is given of the results of experimental investigations made of the pressure distribution throughout various typical cross sections of the region of the first half wave of a hydraulic surface jump. The author makes the following assertions in particular: 1) A pressure deficiency will develop within the crest of the first half wave of a transitory liquid sheet, or underneath the liquid sheet, only in cases in which the surface jump is nearly submerged; 2) the pressure distribution underneath the liquid sheet, i. e., within the bottom eddy, obeys a linear law. A similar pressure distribution, moreover, is encountered both within the liquid sheet and within the eddy in the plane of the bucket -- an exception to the latter being cases in which bucket heights are small; 3) the pressure-distribution pattern

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SOV/124-57-5-5551

A Study of the Pressure Distribution in the Region of the First Half Wave (cont.)

within the first half wave in the region of maximum curvature of the liquid sheet is in approximate conformity with the hydrostatic law. As in another paper of the author's (see RZhMekh Nr 5, 1957, abstract 5552), the reader is given no inkling whatever as to the nature of the experimental apparatus employed nor as to the range of variation of the basic parameters within which the surface-jump phenomenon was investigated.

M. F. Skladnev

Card 2/2

SOV/124-57-5-5552

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 63 (USSR)

AUTHOR: Levitskiy, B. F.

TITLE: Energy Dissipation in the Flow Between Head Water and Tail-Water
by a Free Surface Jump (O gashenii energii pri sopryazhenii
b'yefov po tipu nezatoplennoy poverkhnostnoy pryzhka)

PERIODICAL: Dokl. L'vovsk. politekhn. in-ta, 1955, Vol 1, Nr 2, pp 73-76

ABSTRACT: A brief presentation is made of the results of experiments performed with the object of determining the energy-dissipation effect in a free surface jump. The streamwise rate of change in quantity of motion, determined by elaborating data derived from measurements of the equivalent pressure at various cross sections of the flow, is taken as a measure of the extinction (or, to be more precise, dissipation) of energy. The author comes to the conclusion that a free surface jump dissipates energy to a lesser degree than a submerged hydraulic jump occurring at greater depth. It should be noted that an analogous conclusion may readily be obtained by comparing the magnitude of energy losses computed by Bernoulli's equation for hydraulic jumps at the surface and at greater depth.

M. F. Skladnev

Card 1/1

124-57-1-520

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 1, p 65 (USSR)

AUTHOR: Levitskiy, B. F.

TITLE: On the Energy Dissipation in a Surface-to-bottom Flow From Headwater to Tailwater (O gasheni~~i~~ energii pri poverkhnostno-donnom tipe sopryazheniya)

PERIODICAL: Nauch. zap. L'vovsk. politekhn. in-t, 1955, Nr 31, pp 89-92

ABSTRACT: A discussion of the results of tests performed for the clarification of energy dissipation problem in the surface-to-bottom type of headwater-to-tailwater discharge. 130 test runs were made to cover a turbulence-factor range at the discharge lip corresponding to Froude numbers from 5 to 70. The pressure field in the flow beyond the spillway crest was measured during the tests. The energy of the flow in several sections of the headwater-to-tailwater discharge was expressed by the quantity of motion per second in a given section which was calculated by means of the equation of the quantity of motion. The longitudinal variations in the quantity of motion along the flow are depicted graphically, also the variations of the relative

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124-57-1-520

On the Energy Dissipation (cont.)

quantity of motion along its length. The main energy dissipation in the surface-to-bottom type of a headwater-to-tailwater discharge occurs at a distance of appx. $16 (a q^2 / g)^{1/3}$ from the apron step; the energy dissipation due to the stationary transverse tailwater bottom eddy is insignificant, whereas the surface eddy affords an intense energy dissipation.

T. N. Astaficheva

1. Water--Turbulence--Energy losses--Analysis

Card 2/2

124-57-1-521

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 1, p 65 (USSR)

AUTHOR: Levitskiy, B. F.

TITLE: Establishment of the Submersion Boundary of a Surface Jump
(Ustanovleniye granitsy zatopleniya poverkhnostnogo pryzhka)

PERIODICAL: Nauch. zap. L'vovsk. politekhn. in-t, 1955, Nr 31, pp 109-113

ABSTRACT: A relationship is proposed for the magnitude of the piezometric height h_0 under the jet at its issuance from a ledge at the point of the submersion of a surface jump:

$$h_0 = 0.815 \sqrt{\frac{q^2}{gh} + \frac{h^2}{2}}$$

where h is the thickness of the jet at the ledge, q is the specific discharge, and g is the acceleration due to gravity. The relationship is obtained from an application of the law of the quantity of motion to a space limited by the free horizontal surface plane of the jet, the horizontal plane passing through the ledge, a vertical plane intersecting the jet at a distance of $1.5h$ to $2h$ from the edge of the ledge and a vertical plane that intersects the curv-

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124-57-1-521

Establishment of the Submersion Boundary of a Surface Jump

ing jet at the point of its greatest curvature. It is assumed that the hydrostatic law of pressure distribution obtains in either vertical boundary plane and that the pressure in the lower horizontal plane has a constant value, γh_0 . The relationship is recommended for use at Froude numbers < 35 .
Bibliography: 6 references. T. N. Astaficheva

1. Hydraulics--Mathematical analysis

Card 2/2

124-57-1-525

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 1, p 65 (USSR)

AUTHOR: Levitskiy, B. F.

TITLE: Calculation of the Height of the Crest of Overfall Dams Equipped With a Lip (Raschet vysoty ustupa vodoslivnykh plotin s noskom)

PERIODICAL: Nauch. zap. L'vovsk. politekhn. in-t, 1955, Nr 31, pp 158-162

ABSTRACT: Starting from an evaluation of test data by D. I. Kumin (Sopryazheniye b'yefov pri poverkhnostnom rezhime. Gos-energizdat, 1948) and N. N. Belyashevskiy (Izv. In-ta gidrol. i gidrotekhn. AN UkSSR, 1951, Vol 8), an experimental relationship is proposed for the establishment of the limit of the formation of a surface jump in two- and three-dimensional conditions:

$$\frac{h}{h_k} = 0.755 \frac{a}{P} \left(\frac{P}{h_k} - 2.30 (\beta - 0.14) + 1.70 \beta + 0.54 \right),$$

where P is the height of the overfall dam, a is the height of the crest, h₁ is the depth of the tailwater that corresponds to the limit of the formation of a surface jump, h_k is the critical depth, and β = b/B, where b is the width of the weir and B is the width of

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124-57-1-525

Calculation of the Height of the Crest of Overfall Dams Equipped With a Lip
the tailwater channel. The relationship is recommended for use with values
of a/P from 0.17 to 0.50 and values of m from 0.32 to 0.50.
Bibliography: 9 references T. N. Astaficheva

1. Dams--Crest height--Analysis

Card 2/2

Source from: Referativnyy zhurnal, Mekhanika 1958, Nr 8, p 66 (USSR) SOV/124 58-8-8788

AUTHOR: Levitskiy, B. F.

TITLE: On the Dependence of the Spillway flow Conditions on the Type of Unsubmerged Surface Jump (K voprosu ob izuchenii sopryazheniya b'yefov po tipu nezatoplenogo poverkhnostnogo pryzhka)

PERIODICAL: Nauchn. zap. L'vovsk. politekhn. in-ta, 1956, Nr 43, pp 74-84

ABSTRACT: Results are given of an experimental study made of various problems relating to the surface flow conditions prevailing in the course of the spillway flow: 1) Experimental investigation of the pressure distribution on the spillway bucket revealed that under unsubmerged surface jet conditions, when the bucket is sufficiently long as compared with the thickness of the liquid sheet, there is one section of the bucket at which the hydrostatic law of pressure distribution obtains, and recommendations are included with respect to determining the location of that section. In the case of submerged surface jet conditions, however, no such section exists. 2) In an experimental

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SOV/124-58-8-8788

On the Dependence of the Spillway-flow Conditions (cont.)

study of the limit condition at which the surface-jet flow condition may be replaced by diving-jet flow conditions it was found that such a transition in flow conditions may indeed occur (as D.I. Kumin has asserted) wherever a severe diving of the sheet jet occurs downstream of the bucket sill. 3) Kumin's formula for calculating the necessary minimum height of the sill was tested experimentally and found to yield satisfactory results when values for the ratio of the sill height to the height of the spillway crest above the floor of the tail-water basin were of the order of 0.2 - 0.4; when the values of this ratio were of the order of 0.15 - 0.2, the formula proved not to be sufficiently accurate.

T.N. Astaficheva

Card 2/2

SOV/124-58-8-8787

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 66 (USSR)

AUTHOR: Levitskiy, B. F.

TITLE: The Dependence of Spillway-flow Conditions on the Type of Submerged Surface Jump (Sopryazheniye b'yefov po tipu zatoplennoy poverkhnostnogo pryzhka)

PERIODICAL: Nauchn. zap. L'vovsk. politekhn. in-ta, 1956, Nr 43, pp 85-93

ABSTRACT: Results are given of experiments made to clear up the question of a possible relationship between the amount of energy dissipated in a spillway flow and the type of submerged surface jump involved. The dispersive capacity of a submerged surface jump is determined on the basis of the variation in the momentum per unit time along the length of the flow in accordance with methods proposed by D. I. Kumin (Izv. Vses. n.-i. in-ta gidrotekhn., 1950, Vol 46). The momentum per unit time passing through any section of the flow is determined by measuring the pressure distribution in the various sections. Included are graphs of the variation in momentum along the length of the flow; it is evident from these that a sharp decrease in momentum occurs only in the region of surface and bottom eddies.

T. N. Astaficheva

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SOV/124-58-8-8786

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 66 (USSR)

AUTHOR: Levitskiy, B.F.

TITLE: Surface Conditions During Spillway Flow (O sopryazhenii
b'yefov poverkhnostnom rezhime)

PERIODICAL: Nauchn. zap. L'vovsk. politekhn. in-ta, 1956, Nr 43, pp
102-110

ABSTRACT: Experimental observational data are given on the phenomenon of the periodic shifts that occur in the tail water of a dam equipped with a bucket and on the influence exerted by the angle of inclination of the bucket surface on spillway-flow conditions. The author's investigations of the influence exerted by the angle of rise of the bucket on spillway-flow conditions confirm the results of similar investigations undertaken by N.N. Belyashevskiy, who found that inclining the bucket anywhere from 0 to 100° tends to increase the stability of the surface jump. Bibliography: 6 references.

T.N. Astaficheva

Card 1/1

SOV/124-58-8-8785

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 66 (USSR)

AUTHOR: Levitskiy, B.F.

TITLE: Establishing the Upper Limit of an Unsubmerged Surface Jump
(Ustanovleniye verkhney granitsy nezatoplennoy poverkhnost-nogo pryzhka)

PERIODICAL: Dokl. L'vovsk. politekhn. in-ta, 1957, Vol 2, Nr 1, pp 51-53

ABSTRACT: The author recommends a formula (already cited in his previous writings) for determining the piezometric pressure beneath the fluid sheet at the moment of submergence of a surface jump. On the basis of his experimental findings the author proposes that this formula be applied in the 0-20° range of the angle of rise of the surface of the spillway bucket.

T.N. Astaficheva

Card 1/1

SOV/124-58-3-2901

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 3, p 50 (USSR)

AUTHOR: Levitskiy, B. F.

TITLE: On the Application of the Law of Moments of the Quantity of Motion to an Abruptly Varying Flow (O primenenii zakona momentov kolichestva dvizheniya k neplavno izmenyayushchemusya potoku)

PERIODICAL: Dokl. L'vovsk. politekhn. in-ta, 1957, Vol 2, Nr 1, pp 55-56

ABSTRACT: It is noted that in the work of A. Ya. Milovich [Osnovy gidromekhaniki (Fundamentals of Hydromechanics), Moscow, Gosenergoizdat, 1946] in the discussion of the hydraulic jump the equation of the moments of the quantity of motion is applied incorrectly (the moments of the weight force and the reaction of the bottom are not taken into consideration).

G. Yu. Stepanov

Card 1/1

SOV/124-58-8-8724

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 54 (USSR)

AUTHORS: Bazilevich, A.I., Levitskiy, B.F.

TITLE: On the Energy Transformation Associated With an Abrupt Flow Divergence (O preobrazovanii energii pri vnezapnom rasshirenii potoka)

PERIODICAL: Dokl. L'vovsk. politekhn. in-ta, 1957, Vol 2, Nr 1, pp 57-60

ABSTRACT: On the strength of experiments of their own, the authors confirm the experimental findings of other investigators to the effect that when the flow in a pressure conduit suddenly diverges the stretch of conduit in which the excess kinetic energy of flow undergoes attenuation measures 60-80 diameters. Neither the geometric dimensions of the conduits studied nor any data on the exact nature of the excess-energy attenuation that occurs along the length of the flow are included in the article.

M.E. Faktorovich

Card 1/1

124-58-9-9842

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 9, p 54 (USSR)

AUTHORS: Bazilevich, A. I., Levitskiy, B. F.

TITLE: On the Pressure Distribution During the Sudden Expansion of a Flow (O raspredelenii davleniya pri vnezapnom rasshirenii potoka)

PERIODICAL: Dokl. L'vovsk. politekhn. in-ta, 1957, Vol 2, Nr 1, pp 61-63

ABSTRACT: Presentation of the results of experimental investigations on the distribution of the hydrodynamic pressures on a suddenly diverging sector in a high-pressure conduit. The pressure measurements within the mass of the flow were performed with the aid of a Pitot-Prandtl probe. There are no data on the geometric dimensions of the conduits investigated; also lacking are direct observational data. Among the conclusions it is noted that the tests performed justify the statement that "the pressure distribution along the vertical sections may be assumed to be uniform". This deduction, as well as the pressure-distribution diagrams shown in Fig. 2 of the paper, contradicts the well-known propositions and experimental data of the hydrostatic or quasi-hydrostatic law governing the pressure distribution in a suddenly

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124-58-9-9842

On the Pressure Distribution During the Sudden Expansion of a Flow

diverging flow sector. The abovenoted contradiction may possibly be the result of an inadequate rigorousness in the language of the paper; the words "uniform pressure distribution" could perhaps be intended by the author to convey the meaning of a hydrostatic pressure distribution, and the contours shown in Fig. 2 may not be those of the hydrodynamic pressures but those of the hydrostatic head, $(p/\gamma + z)$.

M. E. Faktorovich

1. Fluid flow--Pressure 2. Hydrodynamics--USSR 3. Hydraulic conduits--Properties

Card 2/2

LEVITSKIY, B.F.

24-9-26/33

AUTHOR: Levitskiy, B.F. (L'vov).

TITLE: On squeezing out oil by water in the case of unidimensional filtration. (O vytesnenii nefti vodoy pri odnomernoy fil'tratsii)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1957, No.9, pp. 145-147 (USSR)

ABSTRACT: An attempt is described of solving the unidimensional problem of squeezing out oil by water into a rectilinear gallery, taking into account the differences in the densities and viscosities of the oil and the water. It is assumed that the stratum is horizontal, that the medium is porous and that the liquid is incompressible and also that movement of the liquid both in the range of the water movement as well as in the oil bearing range obeys the linear law of filtration. By means of the derived formulae, eqs.(4), (9) and (10), the debit of the gallery at any time instant can be calculated. There are 2 figures and 7 Slavic references.

SUBMITTED: February 15, 1957.

AVAILABLE: Library of Congress.
Card 1/1

LEVITSKIY, B.F.; LESHCHIY, N.P.; MOZER, V.P., prof., red.; KVITKO, I.S.,
red.; SARANTUK, T.V., tekhnred.

[Fundamentals of underground hydraulics] Osnovy pidzemnoi
hidravliki. Za red. V.F.Mozera. L'viv, Vyd-vo L'vivs'koho
derzh.univ., 1958. 230 p. (MIRA 12:12)
(Soil percolation)

SOV/124-58-11-12906

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 11, p 149 (USSR)

AUTHOR: Levitskiy, B. F.

TITLE: On the Displacement of Petroleum by Means of Water From a Non-uniform Reservoir (O vytesnenii nefi vodoy iz neodnorodnogo plasta)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Neft' i gaz, 1958, Nr 2, pp 75-77

ABSTRACT: Examination of the problem of the plane piston-like displacement of petroleum by means of water in the presence of an impervious lens. An attempt is made to construct a dynamic-equilibrium equation of the liquid mass contained between the well and the influence contour; however, the author does not take into account that the seepage forces depend on the velocity field and are a much more complicated function of the total yield rate than is expressed in the paper. As a consequence, the reaction of the lens to the flow is arrived at incorrectly. Therefore, the final results obtained from that equation are invalid.

V. N. Nikolayevskiy

Card 1/1

LEVITSKIY, B.F. [Levits'kyi, B.F.]

Flooding oil from a horizontal stratum when the boundary water is
not parallel to the array of wells. Dop. AN URSR no.6:617-618 '58.
(MIRA 11:9)

1.L'vovskiy politekhnicheskii institut. Predstavil akademik AN USSR
V.B. Porfir'yev [V.B. Porfir'iev].
(Oil field flooding)

LEVITSKIY, B.F.

Flow of oil toward galleries in a conical layer under gradually
changing flow. Izv.vys.ucheb.sav.: neft' i gaz. no.7:37-39 '58.
(MIRA 11:11)

1. L'vovskiy politekhnicheskii institut.
(Hydraulics)

BAZILEVICH, A.I.; LEVITSKIY, B.F.

Analogy between the percolation under pressure of an incompressible and a gassed liquid in a porous medium. Dokl. IPI 3 no.1/2: 38-40 '59. (MIRA 13:6)

(Percolation)

LEVITSKIY, B.F.

Flooding oil in one-dimensional flow. Izv. vys. ucheb. zav.;
neft' i gaz 4 no.1:39-41 '61. (MIRA 15:5)

1. L'vovskiy politekhnicheskiy institut.
(Oil field flooding)

LEVITSKIY, B.F.

Flooding oil from a bent layer. Izv. vys. ucheb. zav.; neft' i
gaz 5 no.6:47-49 '62. (MIRA 16:5)

1. L'vovskiy politekhnicheskiy institut.
(Oil field flooding)

LESHCHIY, Nikolay Antonovich [Leshchyi, N.P.]; LEVITSKIY, B.F.
[Levytskyi, B.F.]; BAZILEVICH, A.I. [Bazylevych, A.I.],
dots., red.

[Problems on underground hydraulics; for students
specializing in the development of oil and gas fields and
in the geology and development of oil and gas fields]
Zbirnyk zadach z pidzemnoi hidravliky; dla studentiv
spetsial'nostei rozrobka naftovykh ta gazovykh rodovishch
i geologii ta rozvidka naftovykh i gazovykh rodovishch.
L'viv, L'vivskii politekhnichnyi in-t, 1962. 83 p.
(MIRA 17:10)

REYNOLDS, J.E.; 1966. *Journal of the American Water Resources Association*, 2: 101-110.

Reviews and Bibliography. 12v. v. 1-6. 1966-1971. 1 fasc. 1972.
7 no. 6:133-139. 1972. 1 fasc. 1972.

1. L'vovskiy politicheskii institut (for Serbinich).
2. Mezhevskiy teologicheskoye nauchnyy institut in. D. Prigod (for Sinyarin).
3. Ineperepovskiy domovoy institut (for Voletkovskiy, Yuravlich).

LEVITSKIY, B.F., kand. tekhn. nauk

Energy approach to the concept of pressure in a liquid. Izv. vyz.
ucheb. zav.; energ. 7 no.11:122-124 N '64 (MIRA 18:1)

1. L'vovskiy politekhnicheskii institut. Predstavlena kafedroy
gidravliki i sanitarnoy tekhniki.

LEVITSKIY, B. G.

LEVITSKIY, B. G. (Doctor of agricultural Sciences) and KONYUKHOVA, V. A.
(Candidate of Biological Sciences). On the toxicity of fodder affected with common
molds.

So: Veterinariya; 24; 10; October 1947; uncl.

TABCON

VOLODIN, I.I.; LEVITSKIY, B.I.

Improvement of the technological process of sprocket-chain roller production.
Sel'khoz mashina no.9:29-31 S '53.

(MLA 6:9)

(Link-beltting)

"APPROVED FOR RELEASE: 07/12/2001

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LEVITSKIY, B.M

Category : USSR/Solid State Physics - Structure of Deformable Materials

E-8

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3938

Author : Karpinskiy, O.G., Levitskiy, B.M.

Title : Errata to Article "Residual Stresses after Polishing of Metals"

Orig Pub : Dokl. AN SSSR, 1956, 106, No 6, 950

Abstract : Concerns Ref. Zh. Fiz. 1956, 31769

Card : 1/1

LEVITSKIY, B.M.

E-3

Category : USSR/Solid State Physics - Structural Crystallography

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3692

Author : Konobeyevskiy, S.T., Levitskiy, B.M., Martynyuk, Yu, A.
Title : New Method for X-ray Structural Investigation of Radioactive Material

Orig Pub : Zh. tekhn. fiziki, 1956, 26, No 4, 870-873

Abstract : A setup for the investigation of highly radioactive materials was constructed around a Norelco type ionization x-ray spectrometer. A beam of x-rays is incident on a flat specimen. The diffraction ray, passing through the entrance slit, is reflected by a monochromator and is recorded with a counter. The kinematic setup permits automatic recording of the x-ray pattern with a potentiometer over a range of Vulf-Bragg angles from 0° to 45° , or else to plot the diffraction lines from the number of pulses counted by a mechanical counter. Lead shields 90 cm thick protect the counter from the radioactive radiation of the specimen. The monochromator used was a rock salt crystal, bent plastically by Johann's method. If the specimen is highly active it is possible to use a second order reflection from the monochromator, thus resulting in an increase of the shielding. If the shielding is reinforced, the setup

Card : 1/2

Category : USSR/Solid State Physics - Structural Crystallography

E-3

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3692

can be used to investigate specimens with β and γ activities up to 100 millicurie.

Card : 2/2

LEVITSKY, B. M.

"On Some Physico-Chemical Processes Occurring in Fissionable Materials Under the Influence of Irradiation", by K. P. Dubrovin, S. T. Konobeyevsky,

B. M. Levitsky, L. D. Panteleyev, and N. F. Pravdyuk

Report presented at 2nd UN Atoms-for-Peace Conference, Geneva, 9-13 Sept 1958

KOROBAYEVSKIY, S. T., ZAYMOVSKIY, A. S., LEVITSKIY, B. M., SEMURSKIY, Y. N.
CHEBOTAREV, N. T., BOBKOV, V. V., YEGOROV, P. P., NIKOLAYEV, G. N. and IVANOV, A. A.

"Some Physical Properties of Uranium, Plutonium and Their Alloys."

paper to be presented at 2nd UN Intl'. Conf. on the peaceful uses of Atomic
Energy, Geneva, 1 - 13 Sept 58.

LEVITSKIY, B. M.

AUTHORS: Konobeyevskiy, S. T., Pravdyuk, N. P., Dubrovin, K. P., 69-14/29
Levitskiy, B. M., Panteleyev, L. D., Golyanov, V. M.

TITLE: Investigations of Structural Changes Occurring in an Uranium-Molybdenum Alloy by Neutron Irradiation. (Issledovaniye strukturnykh izmeneniy, proiskhodyashchikh v splave urana s molibdenom pod deystviyem neytronnogo oblucheniya).

PERIODICAL: Atomnaya Energiya, 1958, Vol. 4, Nr 1, pp. 34-44 (USSR).

ABSTRACT: An U + Mo alloy with 9.05 weight percents of Mo is produced in a vacuum induction furnace. The melting charge is rolled out in a warm and cold state until a thickness of 0.1 mm is attained. From these foils the samples for measuring resistance and for radiographic investigations are produced. Before irradiation with neutrons, the samples are subjected to a homogenizing process of annealing (in the vacuum) at a temperature of 1000°C for three hours, after which they were cooled in the air. After irradiation by neutrons the electric resistance was measured and the structure of the alloys was investigated radiographically and under the microscope.

Card 1/2 The thermal treatment described made it possible to obtain samples

89-14/29

Investigations of Structural Changes Occurring in an Uranium-Molybdenum Alloy
by Neutron Irradiation.

with the structure of an eutectoid $\alpha + \beta'$, which has different sizes of grain.

It was found that the diffusion velocity leading to a homogenization under the influence of irradiation in the annealed samples is inversely proportional to the square of the size of grain.

In the homogeneous sample (β' -phase) irradiation causes a modification of properties and of structure, and already within a period of from 2 - 4 hours a maximum of effect is attained. This may be imagined to be something like "irradiation incandescence". In the β' -phase also a re-orientation with transitions to a cubic lattice has been observed. This phenomenon occurs already during the first hours of exposure.

The size of the domain of the thermal peak and the energy liberated was determined at $2.5 \cdot 10^{-17} \text{ cm}^3$ and $\sim 2 \text{ MeV}$. These values are lower than those computed theoretically according to reference 2. There are 13 figures, 4 tables, and 4 references, 3 of which are Slavic.

SUBMITTED: September 11, 1957.

AVAILABLE: Library of Congress.
Card 2/2

BOCHVAR, A.A.; KONOBYEVSKIY, S.T.; ZAYMOVSKIY, A.S.; SERGEYEV, G.Ya.;
KUTAYTSEV, V.I.; PRAVDYUK, N.F.; LEVITSKIY, B.M.

Plutonium, uranium and their alloys. Atom.energ. 5 no.1:5-23 J1.'58.
(Plutonium alloys) (Uranium alloys) (MIRA 11:9)

AUTHORS:

Zaymovskiy, A. I., Iargeyev, G. Ya., Titova, V. V., Kozlov, R. M., Kozlovskiy, Yu. N.

TITLE:

The Influence of the Structure and Properties of Uranium on Its Behaviour Under Irradiation (Vliyaniye struktury i svoystv urana na yego povedeniye pod obliucheniyem)

PERIODICAL:

Atomnaya energiya, 1958. Vol 5. Nr 4, pp 312-420 (USSR)

ABSTRACT:

It was possible to show that by varying the composition of the alloys and by changing the thermal treatment the consequences of the modification of the size of grain of the nucleus and the texture of uranium after irradiation can partly be eliminated. The dependence of the size of the nuclear grain of the enriched uranium, its hardness, its strength limit, and its stretching-strain limit upon the iron-, silicon-, and aluminum content of the alloy is determined by experiment. The cooling-down rate and the content of the admixtures mentioned influence the position of the β - α transformation point. At a cooling-down rate of 400°C/sec and a silicon content of 0.05 weight percent the transformation point between the β - and the α -phase decreases to 550°C. Experiments proved a 50- to 100-fold acceleration of

Part 2

SV 89-8-4-4114

The Influence of the Structure and Properties of Uranium on Its Behavior Under Irradiation

creep under irradiation ($\dot{\epsilon} = 0.10^{-12}$ in/cm².sec) for textured uranium as well as for uranium with a disorientated structure. The creep-rate of disorientated uranium is closely connected with the velocity of stand-by losses. The mechanical properties of uranium, especially dilatation in the reactor, were investigated experimentally. Even after a short stay of the uranium in the reactor (less than 1 hour) the relative modification of the length becomes less and the strength limit increases. The experimentally found values of G_1 are considerably higher than those given in reference 3. A. G. Iarin, V. M. Nepinukova, E. K. Zakharova, L. N. Protsenko, V. N. Golovanova, and F. Borisov took part in the investigations. There are 10 figures, 1 table, and 12 references, 1 of which is cited.

DATE: July 21, 1958

LEVITS Kiy, B. M.

REMARKS:

RU(1)
PAGE 1 BOOK INFORMATION
International Conference on the Peaceful Uses of Atomic Energy. 2nd,
Geneva, 1958

1975, 1976, 1978
 partially acetylated polyacetylene, polyacetylene glycolates, and polyacetylene metal salts.
 (Reports of Soviet Scientists, Nuclear Fuel and Reactor Metals) Moscow, Atomizdat, 1975. 870 p. (Series: Tr. Tsentra, vol. 3, 6,000 copies
 printed.)

Printed.

purpose: This volume is intended for scientists, engineers, physicists, and biologists working in the production and peaceful application of atomic energy for professors and students of science and technology. The book is intended for higher technical education where the subject is taught; and for people interested in atomic science and technology.

COMMENT: This is volume 5 of a 6-volume set of reports on atomic energy, presented by Soviet scientists at the Second International Conference on the Peaceful Uses of Atomic Energy, held in Geneva from September 1 to 15, 1958. Volumes 3 consists of the parts. The first part, edited by A.I. Zhukovskiy, devoted to power generating, concentration and processing of nuclear material. The second part, edited by G.L. Ivanov, includes 27 reports on metallurgy, metallurgical processing technology, nuclear fuels, the use of nuclear metals, and neutron irradiation of various metals. The title for the individual papers is most often in the form word used with those in the official Russian language of the Conference proceedings. See the other volumes of the set.

Reedway, A.A., V.A. Zimmerman, and V.S. Seretev.
Diffusion in the Gamma Phase (Report No. 250)
Self-diffusion

Dedrycz, Ad., S.S. Kondorovskiy, V.I. Rytayev, S.S. Moshalova
and S.S. Chobdary. Titaniun Interaction With Other Metals In
Connection With Their Arrangement In Mendeleev's Periodic Table
(Report No. 2197)

[illegible]

OWNER, A.E., V.V. BENTLEY, E.O. ALBERT, J.J. STEPHENSON,
JAMES M. FLORES

Aluminum Production by the Electrolysis of Fused Salts (Report
Do. 2047)
Card 7/11

LEVITSKIY, B.M.

21(4)	ISSUES 1 BOOK REFERENCE	NOV/771A
	International Conference on the Peaceful Use of Atomic Energy. 2nd, Geneva, 1958	
	Deliberations (English), 2 volumes, 1958, 1 volume, 1959. (Library of Soviet Science) Moscow, 1958, 1959, 600 p. (Series: The Treaty, vol. 2, 6,000 copies printed.	
	MA. (Title page): A.A. Bakharev, Academician, A.P. Vinogradov, Academician, V.A. Kozlov, Corresponding Member, USSR Academy of Sciences, and A.P. Kozlov, Director of Technical Sciences; MA. (Title page): V.A. Kozlov, Corresponding Member, USSR Academy of Sciences, and A.P. Kozlov, Director of Technical Sciences; MA. (Title page): V.A. Kozlov, Corresponding Member, USSR Academy of Sciences, and A.P. Kozlov, Director of Technical Sciences.	
	PREFACE: This volume is intended for scientists, engineers, physicians, and biologists working in the protection and peaceful use of atomic energy. It contains the proceedings and reports of the 2nd International Conference on the Peaceful Use of Atomic Energy, held in Geneva from September 1 to 11, 1958. The volume consists of two parts. The first part, edited by A.I. Zolotarev, is devoted to geology, prospecting, communication, and processing of nuclear energy material. The second part, edited by G.I. Zolotarev, includes 27 reports on metallurgy, metallurgy, processing technology of nuclear materials, nuclear metals, and nuclear irradiation effects on solids. The title of the individual reports in most cases corresponds to the title of the official English language edition of the proceedings. See NOV/2001 for the titles of the other volumes of the set.	
	LEVITSKIY, B.M., V.A. Kozlov, V.A. Kozlov, and V.D. Belykh. Including Beryllium and Other Metals by Combination on Nuclear Reactors (Report No. 2023)	206
	Zolotarev, G.I. and V.A. Kozlov. Building and Control of Beryllium (Report No. 2048)	206
	Zolotarev, G.I. and V.A. Kozlov. B.P. Zolotarev, V.A. Kozlov, and V.D. Belykh. Production of Chemically Pure Strontium, Barium, Magnesium, and Calcium (Report No. 2050)	206
	Zolotarev, G.I. and V.A. Kozlov. A.I. Zolotarev, V.A. Kozlov, and V.D. Belykh. Effect of Thermal Cycling and Cooling on the Mechanical and Structural Stability of Various Metals and Alloys (Report No. 2101)	206
	Zolotarev, G.I. and V.A. Kozlov. V.A. Kozlov, V.D. Belykh, and V.D. Belykh. Influence of the Structure and Properties of Beryllium on Its Behavior Under Irradiation (Report No. 2101)	206
	End 9/11	

LEVITSKIY, B.M.; RUSAKOV, A.A.; YUDIN, V.M.; YAL'TSEV, V.N.

Equipment for X-ray diffraction microscopy. Met. 1 metalloid.
chist. met. no.3:277-283 '61. (MIRA 15:6)
(X rays—Equipment and supplies) (Metallography)

S/058/62/000/008/069/134
A061/A101

AUTHORS: Levitskiy, B. M., Rusakov, A. A., Yudin, V. M., Yal'tsev, V. N.

TITLE: Device for diffraction microroentgenography

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 4, abstract 8E33
(In collection: "Metallurgiya i metalloved. chist. metallov",
no. 3, Moscow, Gosatomizdat, 1961, 277 - 283)

TEXT: Described are two universal chambers for diffraction microroentgenography, whereby substructural characteristics of individual metal grains can be obtained. A ДМРК-2 (DMRK-2) chamber is intended for the study of single crystals and polycrystals in the continuous spectrum, in characteristic or monochromatic X-radiation. The special holder design permits the precise reproduction of exposure conditions after a specimen has been replaced. The specimen is able to rotate about an axis coinciding with the monochromator rotation axis. The absolute turning angles are read with an accuracy of $\sim 3'$, and the relative ones with $\sim 6''$. The DMRK-3 chamber provides for the possibility of obtaining an X-ray beam with little divergence in one plane using a fine-focused tube, /

Card 1/2

Device for diffraction microroentgenography

S/058/62/000/008/069/134
A061/A101

and also the possibility of mounting a monochromator. The holder, which can be shifted in a horizontal plane in two mutually perpendicular directions, is able to rotate about an axis perpendicular to the primary beam. The absolute turning angles are determined with an accuracy of $\sim 3'$, and the relative ones with $\sim 8''$. ✓

Ye. Dukhovskaya

[Abstracter's note: Complete translation]

Card 2/2

KONOBAYEVSKIY, S.T., otv. red.; ADASINSKIY, S.A., zam. otv. red.;
GRUZIN, P.L., red.; KURDYUMOV, G.V., red.; ~~LEVITSKIY, B.M.,~~
red.; LYASHENKO, V.S. [deceased], red.; MARTYNYUK, Yu.A.,
red.; POKROVSKIY, Yu.I., red.p PRAVDYUK, N.P., red.;
MAKARENKO, M.G., red. izd-va; POLYAKOVA, T.V., red. izd-va;
DOROKHINA, I.N., tekhn. red.

[Effect of nuclear radiation on materials; reports] Deistvie
iadernykh izlucheni na materialy; doklady. Moskva, Izd-vo
Akad. nauk SSSR, 1962. 383 p. (MIRA 15:10)

1. Soveshchaniye po probleme "Deystviye iadernykh izlucheni
na materialy," Moscow, 1960. 2. Chlen-korrespondent Akademii
nauk SSSR (for Konobayevskiy).
(Materials, Effect of radiation on)

LEVITSKIY, B. M.

90

PHASE I BOOK EXPLOITATION

80V/6176

Konobeyevskiy, S. T., Corresponding Member, Academy of Sciences
USSR, Resp. Ed.

Deyatvie vadernykh izlucheniv na materialy (The Effect of
Nuclear Radiation on Materials). Moscow, Izd-vo AN SSSR,
1962. 383 p. Errata slip inserted. 4000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye tekhnicheskikh nauk; Otdeleniye fiziko-matematicheskikh nauk.

Resp. Ed.: S. T. Konobeyevskiy; Deputy Resp. Ed.: S. A. Adasinskiy; Editorial Board: P. L. Gruzin, G. V. Kurdyumov, B. M. Levitskiy, V. S. Lyashenko (Deceased), Yu. A. Martynyuk, Yu. I. Pokrovskiy, and N. F. Pravdyuk; Ed. of Publishing House: M. G. Makarenko; Tech. Eds: T. V. Polyakova and I. N. Dorokhina.

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9C
SOV/6176

The Effect of Nuclear Radiation (Cont.)

PURPOSE: This book is intended for personnel concerned with nuclear materials.

COVERAGE: This is a collection of papers presented at the Moscow Conference on the Effect of Nuclear Radiation on Materials, held December 6-10, 1960. The material reflects certain trends in the work being conducted in the Soviet scientific research organization. Some of the papers are devoted to the experimental study of the effect of neutron irradiation on reactor materials (steel, ferrous alloys, molybdenum, avial, graphite, and nichromes). Others deal with the theory of neutron irradiation effects (physico-chemical transformations, relaxation of internal stresses, internal friction) and changes in the structure and properties of various crystals. Special attention is given to the effect of intense γ -radiation on the electrical, magnetic, and optical properties of metals, dielectrics, and semiconductors.

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The Effects of Nuclear Radiation (Cont.)

SOV/6176

Pravdyuk, N. F., V. A. Nikolayenko, and V. I. Korpukhin.
Change in Lattice Parameters of Diamond and Silicon Carbide
During Irradiation 184

Abdullayev, G. B., and M. A. Talibi. On One Method of Using
Cadmium Sulfide Photoresistors in Recording X- and Y-ray
Dosimeter 189

Konobeyevskiy, S. T., B. M. Levitskiy, L. D. Panteleyev, K. P.
Dubnovin, V. I. Kutaytsay, and V. N. Koney. X-Ray Examina-
tion of Transformations in Copper-Tin Alloy Under Neutron
Irradiation

Levitskiy, B. M., and L. D. Panteleyev. X-Ray Examination of
the Relaxation of Internal Microstresses in Cold-Worked
Metals Under Neutron Irradiation 209

Konobeyevskiy, S. T., N. F. Pravdyuk, Yu. I. Pokroyakiy, and
V. I. Vikhrov. Effect of Neutron Irradiation on Internal
Friction in Metals 219

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The Effect of Nuclear Radiation (Cont.)

SOV/6176

Batenin, I. V., V. A. Il'ina, V. K. Kritskaya, O. V. Kurdyumov, and B. V. Sharov. Investigation of the Effect of Neutron Irradiation on Thin Crystalline Structure and Properties of Metals and Alloys

160

Annealed specimens (copper at 400°; iron and iron-nickel at 600°; iron-chromium and iron-tungsten at 650°; and chromium at 900°) were irradiated with neutron fluxes of $\sim 10^{18}$ and $\sim 10^{19}$ n/cm² at a temperature not exceeding 80° [C?].

Karpukhin, V. I., and V. A. Nikolayenko. Remote Controlled Installation for X-Ray Diffraction Analysis of Radioactive Specimens

168

Levitskiy, B. M., and Yu. A. Martynuk. Installation for X-Ray Examination of Highly Active Specimens

173

Sharov, B. V., I. V. Batenin, and A. M. Rudenko. X-Ray Unit for Structural Investigation of Radioactive Materials

180

Card 8/14

- 4 -

"APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929630001-1

APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929630001-1"

LEVITSKY, B. M.

Cor 2/3

used for irradiation, resulting in even better hardening of materials. The layers arising
from irradiation differ from those arising from other processes.

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L 4035-66 EWT(m) DIAAP CS
ACCESSION NR: AT5023795

UR/0000/62/000/000/0173/0179

AUTHOR: Levitskiy, B. M.; Martynyuk, Yu. A.

TITLE: Apparatus for x-ray diffraction analysis of highly radioactive samples

SOURCE: Soveshchaniye po probleme Deystviye yadernykh izlucheni na materialy. Moscow, 1960. Deystviye yadernykh izlucheni na materialy (The effect of nuclear radiation on materials); doklady soveshchaniya. Moscow, Izd-vo AN SSSR, 1962, 173-179

TOPIC TAGS: x ray diffraction analysis, radioactive source, x ray apparatus

ABSTRACT: An apparatus based on a URS-50-1 diffractometer was constructed for x-ray analysis of samples with a maximum activity of 1 Curie of Co^{60} . The apparatus meets the following conditions: (1) Retention of the principal features of URS-50-1 (limiting diffraction angle, automatic recording and counting of individual pulses); (2) Operation in a nonisolated compartment without special remote control; (3) Use of both ionization and scintillation recording counters; (4) Rotation of the sample in its own plane. The main parts of the apparatus (x-ray tube, monochromator, recording counter, device for rotating the sample) are described. More than two years of operation have shown that high-quality radiograms

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ACCESSION NR: AT5023795

can be obtained from samples emitting gamma radiation equivalent to 1 Curie of Co^{60} . As an example, a recording of the (111) line of a tin bronze sample containing 1 at. % Pu with an activity of 0.4 Curie of Co^{60} (following neutron irradiation) is illustrated in Fig. 1 of the Enclosure. Orig. art. has: 6 figures.

ASSOCIATION: None

SUBMITTED: 18 August 62

ENCL: 01

SUB CODE: NP, OP

NO REF SOV: 006

OTHER: 006

Cord 2/3

L 4035-66
ACCESSION NR: AT5023795

ENCLOSURE: 01

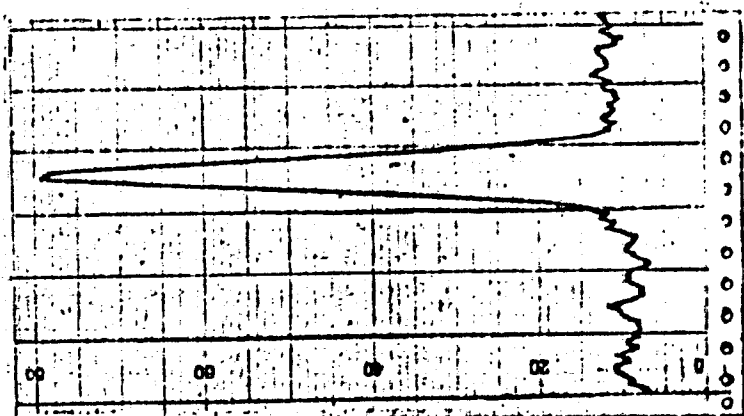


Fig. 1. (111) line of a tin bronze sample containing 1 at. % Pu with an activity of 0.4 Curie of Co^{60} (following neutron irradiation).

Card 3/3

BP

L 9236-66 EWI(m)/EPF(n)=2/T/EMP(t)/EMP(b)/EWA(h)/EWA(c) JD/JG/GG/GS
 ACC NR: AT5023799 SOURCE CODE: UR/0000/62/000/000/0194/0208

AUTHOR: Konobeyevskiy, S. T. ⁶⁵ (Corresponding member AN SSSR); Levitskiy, D. M. ^{4/8}
Panteleyev, L. D. ⁵⁵; Dubrovin, K. P. ⁵⁵; Kutaytsev, V. I. ⁵⁵; Konev, V. H. ^{4/7}

ORG: none B + 1

TITLE: X-ray diffraction analysis ^{19, 55} of transformations in a copper-tin alloy ^{55, 27} subjected to neutron irradiation ¹⁶

SOURCE: Soveshchaniye po probleme Deystviye yadernykh izlucheniya na materialy. Moscow, 1960. Deystviye yadernykh izlucheniya na materialy (The effect of nuclear radiation on materials); doklady soveshchaniya. Moscow, Izd-vo AN SSSR, 1962, 194-208 ^{55, 16}

TOPIC TAGS: neutron irradiation, copper alloy, tin containing alloy, alloy irradiation, plutonium containing alloy, phase transformation, irradiation induced transformation

ABSTRACT: ¹To determine the mechanism of homogenization which takes place in uranium-molybdenum and uranium-niobium alloys under the effect of neutron irradiation, specimens of two copper-base alloys, one containing 9 at% tin and the other 9 at% tin and 1 at% plutonium, were irradiated with an integrated flux of up to 6×10^{19} n/cm². Prior to irradiation, specimens of both alloys were homogenized and strain-hardened by cold rolling with a total reduction of 85—95%; half of the specimens were then aged (annealed at 220 ± 5C for 500 hr) to induce a decomposition Cord 1/2

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ACC NR: AT5023799

of the solid solution and thus obtain a heterogeneous structure. Subsequent neutron irradiation had no effect on the structure of either the strain-hardened or annealed copper-tin alloy specimen. In the annealed specimens (heterogeneous structure) of the copper-tin-plutonium alloy, irradiation brought about a partial homogenization, i.e., a dissolution of secondary phases precipitated under the effect of aging. In the strain-hardened (homogeneous) specimens of the copper-tin-plutonium alloy, a partial decomposition of the solid solution under the effect of irradiation was observed. These results confirm the assumption that the phenomenon of homogenization in uranium-molybdenum and uranium-niobium alloys is a result of a rapid deceleration of fission fragments and not a result of a similar deceleration of primary atoms knocked out by fast neutrons (as suggested by some researchers), since in this case the copper-tin alloy would have been affected to the same degree as the copper-tin-plutonium alloy. Orig. art. has: 9 figures, 3 tables, and 4 formulas. [DV]

SUB CODE: 11,20/ SUBM DATE: 18Aug62/ ORIG REF: 006/ OTH REF: 004

Card

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L 9237-66 EWT(m)/EWP(w)/EPP(n)-2/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/SWA(c) IJP(c)
ACC NR: AT5023800 JD/WW/HW/JG/EM/GG/OSSOURCE CODE: UR/0000/62/000/000/0209/0218

AUTHOR: Levitskiy, B. M.; Panteleyev, L. D.

ORG: none

TITLE: X-ray investigation of the neutron-irradiation-induced relaxation of internal microstresses in cold-strained metals

SOURCE: Soveshchaniye po probleme Deystviye yadernykh izlucheni na materialy. Moscow, 1960. Deystviye yadernykh izlucheni na materialy (The effect of nuclear radiation on materials); doklady soveshchaniya. Moscow, Izd-vo AN SSSR, 1962, 209-218

TOPIC TAGS: nickel, zirconium, molybdenum, platinum, tungsten, bronze, cold rolled metal, metal internal stress, neutron irradiation, fast neutron irradiation, metal stress relaxation

ABSTRACT: The effect of irradiation on the stress relaxation in nonfissionable materials has been studied in stress-relieved W, Mo, Pt, and Zr cold-rolled with a 70% reduction, (14.5 wt% Sn) cold-rolled with a 90% reduction, and Ni and homogenized bronze with a fast neutron flux of 2.8×10^{13} n/cm² sec. For unirradiated metals, cold deformation produced a greatly inhomogeneous deformation in the crystal lattice which led to the widening of x-ray diffraction lines. In the homogeneity regions,

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ACC NR: AT5023800

the relative microdeformation (ϵ) was about 10^{-3} and was dependent on the type of metal; the computed value of the microstresses (σ) was close to the yield strength. In all cold-deformed metals, irradiation resulted in microstress relaxation, differing in degree for different metals and little affected by the type of lattice and the binding energy of the atom. The "after-effect", i.e., a reverse widening of the x-ray diffraction lines constituting a partial return of cold-deformed irradiated metal to the preirradiation condition, previously observed in lightly-irradiated, cold-rolled fissionable materials, was also observed in nonfissionable metals slightly annealed at 100—300C after irradiation. The magnitude of this recovery varied for different metals. It can be concluded that a partial relaxation of internal elastic stresses occurs in cold-strained nonfissionable metals after a selected dose of fast-neutron irradiation. This relaxation is unstable and, after light heating, the metals approach the preirradiation stressed condition. Orig. art. has: 6 figures and 2 tables. [MS]

SUB CODE: 11, 20/ SUBM DATE: 18Aug62/ ORIG REF: 009/ OTH REF: 002

Card 2/2

LEVITSKIY, B. N.

Major Med. Service

"From the Experience with Sanitary Training Under the Conditions Prevailing
at a Military Unit," Voenno-Meditsinskiy zhur., No.8, pp. 81-82, 1955

Translation 551163

LEVITSKIY, B.S.

Improve the activities of disinfection detachments. Veterinaria
35 no.8:81 Ag '58. (MIRA 11:9)

1. Nachal'nik dezotryada Krymskoy oblvet baklaboratorii.
(Spraying and dusting equipment)

RAYKO, V.V.nauchnyy sotrudnik; VOLKOV, Ya.R.nauchnyy sotrudnik; LEVITSKIY, D.A.nauchnyy sotrudnik; KHODAK, A.N.nauchnyy sotrudnik; RATNER, Yu.Z. inzhener; VORODIMOV, N.I.inzhener; GRISHAYEV, N.N.inzhener; SHULYATSKIY, D.I., inzhener, redaktor; ANDREYEV, S.A., tekhnicheskiy redaktor

[Rules for the technical operation of cranes] Pravila tekhnicheskoi ekspluatatsii pod" emnykh kranov. Khar'kov, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 167 p.

(MLRA 10:5)

1. Russia (1923 U.S.S.R.) Ministerstvo chernoy metallurgii.
2. Vsesoiyanny nauchno-issledovatel'skiy institut organizatsii chernoy metallurgii. (for Rayko, Volkov, Levitskiy, Khodak)
3. Otdel glavnogo mekhanika Ministerstva chernoy metallurgii. (for Shulyatskiy) 4. Zavod "Azovstal'" (for Ratner) 5. Zavod "Zaporozhstal'" (for Vorodimov, Grishayev)

(Cranes, derricks, etc.)

KUVAYEV, Nikolay Yefremovich, dots.; MAYMIN, Semen Rafailovich, dots.;
SHAFRANOV, Vitaliy Pavlovich, kand.tekhn.nauk; MIROSHNIK, Aleksandr
Mikheylovich, kand.tekhn.nauk; BUN'KO, Viktor Aleksandrovich, dots.;
~~LEVITSKIY, D.A.~~, otvetstvennyy red.; LIBERMAN, S.S., red.izd-va;
ANDREYEV, S.P., tekhn.red.

[Electric drive for mining machinery and the principles of automatic
operation] Elektroprivod gornykh mashin i osnovy avtomatiki. Khar'kov,
Gos. nauchno-tekhn. izd-vo lit-ry po cherno i tsvetnoi metallurgii,
1957. 320 p. (MIRA 11:2)

(Mining machinery--Electric driving)
(Automatic control)

LEVITSKIY, D.A., gornyy inzh.; BOLOTSKIY, N.S., gornyy inzh.

Use of hydraulic lifts for rock haulage in mines. Ugol' Ukr.
6 no.11:15-17 N '62. (MIRA 15:12)

1. Ukrainskiy nauchno-issledovatel'skiy institut organizatsii
i mekhanizatsii shakhtnogo stroitel'stva.
(Hydraulic conveying) (Mine hoisting)

TARAN, A.G.; LEVITSKIY, D.A.; BOLOTSIKH, N.S.

Using hydraulic coal conveying in mines under construction.
Bul.tekh.-ekon.inform.Gos.nauch.-issl.stat.nauch.i tekhn.inform.
no.2:11-14 '63. (MIRA 16:2)
(Hydraulic conveying) (Coal mines and mining)

LEVITSKIY, David Aronovich; POCHTMAN, A.M., red.; YEZDAKOVA, M.L.,
red.izd-va; KOROVINA, N.A., tekhn. red.

[Operation and repair of the mechanical equipment of
sintering plants] Ekspluatatsiia i remont mekhanicheskogo
oborudovaniia aglomeratsionnykh fabrik. Moskva, Metallurg-
izdat, 1963. 251 p. (MIRA 16:10)
(Metallurgical plants--Equipment and supplies)
(Machinery--Maintenance and repair)

FEDORTSOV-LUTIKOV, G.P., kand.tekhn.nauk; GRIBOYEDOVA, T.S., inzh.;
TERESHKOVICH, A.S., inzh.; SOLOMOUTS, M.I., inzh.; LEVITSKIY,
D.N., kand.tekh.nauk

Cast austenite steels for stationary steam and gas tur-
bines. [Trudy] TSNIITMASH 100:183-191 '59.

(MIRA 13:7)

(Steel castings) (Turbines)

37837

S/123/62/000/008/009/016
A004/A101

18.8200

AUTHOR: Levitsiy, D. N.

TITLE: On the dependence of the extrapolated long-time strength limit on the number of specimens and test duration

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 8, 1962, 28, abstract 8A203 (V sb. "Issled. novykh zharoprochn. splavov dlya energetiki". Moscow, Mashgiz, 1961, 80-86)

TEXT: Four steel grades, viz. 3H 257 (EI257), JA 1 (LA1), 1X 18H12T (1Kh18N12T) and 15X1M1Φ (15Kh1M1F) were tested and recommendations are given on the problem of the necessary testing duration and of the minimum number of specimens necessary to determine the long-time strength. From the results obtained the maximum and minimum values of the long-time strength limit were determined as well as their deviation in per cent from the limit calculated on the basis of 100 specimens. It was found that the magnitude of the extrapolated long-time strength limit depends to a considerable extent on the number of specimens tested and on the testing duration. For austenitic steel the data obtained from testing 20 - 30 specimens are considered as dependable. An

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On the dependence of the extrapolated ...

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extrapolation of the long-time strength values for 100,000 hours can be carried out on the basis of test results covering a testing time of 5,000 hours.

[Abstracter's note: Complete translation]

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Card 2/2

LEVITSKIY, D.N., kand.tekhn.nauk

Relation of the extrapolated durability limit to the number of
specimens and the duration of testing. [Trudy] TSNIITMASH

101:80-86 '61.

(MIRA 14:10)

(Heat-resistant alloys—Testing)

S/032/61/027/011/010/016
B104/B138

AUTHOR: Levitskiy, D. N.

TITLE: The number of specimens for determination of rupture stress
of creep resisting steel

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 11, 1961, 1388 - 1389

TEXT: The author analyzed the results of stress to rupture tests for steels ЭИ257 (EI257), АА1 (LA1), P2 (R2), 15X1M1Ф (15Kh1M1F), 1X18H12T (1Kh18N12T), and some German steels. The results are plotted in a diagram. The long-time strength of these steels is usually determined with six specimens. It is shown that with only six specimens the stray of the extrapolated rupture stress values is too high. It is rapidly reduced when more specimens are used (Fig. 1). 30 specimens are considered necessary for a sufficiently accurate determination of long-time strength. This paper has been registered under the number 17,400 at the Komitet po delam izobreteniy i otkrytiy pri Sovete Ministrov SSSR (Bureau of Inventions and Discoveries at the Council of Ministers USSR). There are 2 figures, 1 table, and 2 references: 1 Soviet and 1 non-Card 1/2. 2

The number of specimens for...

S/032/61/027/011/010/016
B104/B138

Soviet.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii
i mashinostroyeniya (Central Scientific Research Institute
of Technology and Machine Building)

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Card 2/12

S/137/62/000/006/130/163
A052/A101

AUTHOR: Levitskiy, D. N.

TITLE: On the dependence of extrapolated rupture strength on the number of samples and testing time

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 78, abstract 6I488 (V sb. "Issled. novykh zharoprochn. splavov dlya energetiki". Moscow, Mashgiz, 1961, 80 - 86)

TEXT: The influence of the number of samples and testing time on the extrapolated rupture strength of ЭИ257 (EI257), ЛА1 (LA1), 1Х18Н12Т (1Kh18N12T) and 15Х1М1Ф (15Kh1M1F) steels is analyzed. The rupture strength values determined by the least square method for different temperatures on the basis of testing groups of 6, 15, 30 and 60 samples were compared with the rupture strength values computed on the basis of testing 100 samples. The dependence of the deviation and error in determining the rupture strength on the rupture strength computed for different numbers of samples was plotted. It is shown that for austenitic steels the error in determining the rupture strength

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Card 1/2

On the dependence of extrapolated rupture...

S/137/62/000/006/130/163
A052/A101

decreases sharply with the increase in the number of samples to 15 - 20. For perlitic steel of EI257 type also a sharp decrease of the error in determining the rupture strength was observed when testing 10 - 20 samples, however, the absolute rupture strength values remain considerably different from the computed value. To evaluate the effect of testing time on the rupture strength, the rupture strength values were determined for different temperatures on the basis of successive 1,000; 2,000; 5,000; and 10,000-hour tests; the results were compared with the rupture strength values determined on the basis of testing all samples of the given series at all testing times obtained. It is shown that with a decrease of the testing time the error in determining the rupture strength increases and at 1,000-hour testing time it reaches for the studied materials 15 - 75%. The data cited on handling the results of testing a number of German steels by the described method show a similar dependence of the rupture strength on the testing time. On the basis of the studied regularities it is suggested when extrapolating the rupture strength for 100,000 h to test at least during 5,000 h. When determining rupture strength for austenitic steels it is recommended to test 20 - 30 samples.

[Abstractor's note: Complete translation]

V. Geveling

Card 2/2

LEVITSKIY, D.N., kand.tekhn.nauk

Recommended testing methods of and symbols for filler metals
used in soldering (from materials of the International Institute
of Welding MIS-63-60 (I-137-60). Svar.proizv. no.1:42-44 Ja
'63. (MIRA 16:2)

(Solder and soldering)

LEVITSKIY, D.N.

Results of testing the strength of soldered butt and telescopic joints. Svar. proizv. no.8:38-39 Ag '64.

(MIRA 17:9)

BUD'KO, A.V.; BOGDANOV, G.I.; TARAN, P.N.; LEVITSKIY, D.Z.

Study and improvement of chamber systems with mass pillar caving
in the Krivoy Rog Basin. Gor.zhur. no.4:24-29 Ap '62.

(MIRA 15:14)

1. Institut gornogo dela im. Skochinskogo (for Bud'ko, Bogdanov).
2. Trest Leninruda, Krivoy Rog (for Taran, Levitskiy).
(Krivoy Rog Basin---Iron mines and mining)

LEVITSKIY, E.; POTATUYEV, P.

Ensure efficient bank work under seven-hour workday conditions.
Den. 1 kred. 18 no.9:35-42 S '60. (MIRA 13:8)

1. Glavnyy bukhgalter otdeleniya Gosbanka v g.Korostysheve Zhitomirskoy (for Levitskiy).
 2. Glavnyy bukhgalter Biyskogo otdeleniya Gosbanka Altayskogo kraya (for Potatuyev).
- (Banks and banking) (Hours of labor)

LEVITSKIY, D.Z., gornyy inzh.; UDRIS, V.A., gornyy inzh.; ROMANENKO, D.F.,
gornyy inzh.

Inclined conveyor gallery at the "Bol'shevik" Mine. Cor.shur.
no.10:74-75 0 '64. (MIRA 18:1)

1. Trest Leninruda, Krivoy Rog.

LEVITSKIY, D.Z.

Growth of labor productivity and cost of mining ore at Leninrud
Trust mines. Gor.zhur. no.1:17-20 Ja '65.

(MIRA 18:3)

1. Upravlyayushchiy trestom Leninruda.

BUD'KO, A.V.; BOGDANOV, G.I.; LEVITSKIY, D.Z.; DROBOT, A.S.; YAKOVENKO, K.F.;
MARCHENKO, A.A.; MATVEYEV, I.K.; LECNOV, B.A.; BABENKO, V.T.

Pillar recovery in the Krivoy Rog Basin. Gor. zhur. no.5:22-24
My '65. (MIRA 18:5)

1. Institut gornogo dela im. A.A.Skochinskogo, Moskva (for Bud'ko,
Bogdanov). 2. Trest Leninruda (for Levitskiy). 3. Rudnik imeni
R. Lyuksemburg (for all except Bud'ko, Bogdanov, Levitskiy).

KATSOBASHVILI, Ya.R.; KURKOVA, N.S.; LIKHOBABENKO, V.S.; LEVITSKIY, E.A.;
KUZ'MINA, T.N.; KUKHTICHEVA, V.F.; MOSOLOVA, P.A.

Preparation of mechanically strong catalysts based on aluminum
oxide. Trudy Inst. nefti 14:160-186 '60. (MIRA 14:5)
(Catalysts)
(Aluminum oxide)

53300(3)
5/1/90

6862

5/30/60/000/02/025/023

AUTHORS: Katsobavskii, Ya. B.; Mur'sina, T. B.; Mur'sina, S. S.;
Kuchukova, V. A.; Levitskiy, B. A.; Likhacheva, V. G.,
and Maslova, T. A. (Moscow)

TITLE: Mechanically Strong Aluminonickel Catalyst for the
Process of Destructive Hydrogenation

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh
nauk, Metallurgiya i topivo, 1960, No. 2, pp 159-164 (USSR)

ABSTRACT: The process of destructive hydrogenation of crude oil and
residues under a moderate pressure in a circulating
stream of a catalyst developed by the Petroleum Institute
of the Academy of Sciences USSR (Ref. 1) requires the
application of catalysts which are resistant to wear.
An investigation of the influence of conditions of
preparation of aluminonickel catalysts, containing 10% of
nickel oxide, on their mechanical strength is described
in the present paper. The experiments were carried out
on a small and pilot plant scale. The precipitation of
zinc and separate aluminum and nickel hydrides from
Zn solutions of nitrates or sulphates was done with sodium
hydroxide, controlling the pH of the medium, temperature

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of precipitation, aging time of the precipitated
hydrides and, in the case of separate precipitation
from sulphate salts, the amount of wash water on the
residual content of sulphate ion. The experimental
results obtained are given in tables: Table 1 gives the
influence of pH of the medium during precipitation on
the strength of the catalyst (experimental conditions:
precipitation temperature 20°C; aging temperature
20°C; washing with ammoniacal water at room temperature);
Table 2 shows the influence of pH of the medium during
precipitation on the strength of the catalyst
(experimental conditions: duration of aging 45 hours,
pH during precipitation 9.6); Table 3 gives the influence
of aging on the mechanical strength of the catalyst (pH
at the end of precipitation 3.6; precipitation and aging
at room temperature); Table 4 shows the influence of
chemical composition on the content of sulphate ions in
aluminonickel catalysts; Table 5 gives the properties of
aluminonickel catalysts prepared by the method of separate

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precipitation. The activity of the catalysts prepared
was tested under standard conditions of destructive
hydrogenation at a moderate pressure (Ref. 1) of
sulphurous kerosene crude oil and compared with that of
an industrial aluminonickel catalyst. The experi-
mental results are given in Table 6. It was found that
in respect of their activity aluminonickel catalysts are
not inferior to industrial aluminonickel catalysts.
Ref. 7/1960 the yield of liquid products amounted to 87-90%,
the yield of coke to 2.7-3.6% and the degree of
aluniphurization to 75-85%. It is concluded that
aluminonickel catalyst prepared under optimum conditions
possesses satisfactory mechanical properties and activity
for the process of destructive hydrogenation under a
moderate pressure (30 atm).
There are 6 tables and 7 references, of which 5 are
Russian, 1 is English and 1 is German.

Card
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KATSOBASHVILI, Ya.R.; KURKOVA, N.S.; LIKHOBABENKO, V.S.; LEVITSKIY,
N.A.; GOLOSOV, S.A.; MASOLOVA, F.A.; MAZAROV, G.I.

Apparatus for washing filter residues of high hydraulic
resistance. Khim.prom. no.4:340 Je '60.

(MIRA 13:8)

(Filters and filtration)

KATSOVASHVILI, Ya.R. (Moskva); KURKOVA, N.S. (Moskva); LEVITSKIY, B.A.
(Moskva); LIKHODABENKO, V.S. (Moskva); MASOLOVA, Y.A. (Moskva)

Preparing a mechanically resistant alumina-molybdenum catalyst.
Izv. AN SSSR. Otd. tekhn. nauk. Mat. i topl. no. 5: 234-238 S-O '60.
(Catalysts) (Molybdenum compounds)

S/078/60/005/012/006/016
B017/B064

AUTHORS: Katsobashvili, Ya. R., Kurkova, N. S., Levitskiy, E. A.

TITLE: Stability of the Hydroxide Precipitate of Pentavalent Molybdenum at Different pH Values of the Medium

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 12, pp. 2681-2686

TEXT: The effect of the pH of the precipitating medium upon the dissolution process of molybdenum(V)hydroxide was investigated. The solutions of pentavalent molybdenum were prepared by reducing hydrochloric ammonium molybdate solutions by metallic aluminum. Molybdenum(V)hydroxide was precipitated from these solutions at pH 5.0-6.5. At pH 8-10, molybdenum(V)-hydroxide is dissolved again. The potentiometric titration curve of Mo^{5+} solutions is given in Fig. 1. The dissolution of molybdenum(V)-hydroxide in alkaline medium was found to be due to the oxidation of Mo^{5+} to Mo^{6+} . Molybdenum(V)hydroxide is dissolved at pH higher than 7.

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Stability of the Hydroxide Precipitate of
Pentavalent Molybdenum at Different pH Values
of the Medium

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The dissolution of molybdenum(V)hydroxide is independent of time and temperature. The pH is, however, the primary factor. When heating molybdenum-(V)hydroxide from 20 to 50°C, it is rapidly dissolved; when the temperature is further increased to 70°C, no essential change of the dissolution rate occurs. At pH below 7, the precipitation of molybdenum(V)hydroxide is quantitative. The dissolution rate of molybdenum(V)hydroxide is independent of the ammonium chloride concentration in the solution. On the basis of the results obtained, a new procedure of preparing thermostable aluminum-molybdenum catalysts with good mechanical strength is suggested. There are 5 figures, 2 tables, and 13 references: 9 Soviet and 2 German.

SUBMITTED: September 30, 1959

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LEVITSKIY, E.A.

Production of 5/6 aluminum hydroxychloride and prospects for
its industrial applications. Khim. prom. no. 7:557-558

O-N '60.

(MIRA 13:12)

(Aluminum chloride)

LEVITSKIY, N.A.

Determination of the charge sign of colloidal particles in
coagulated systems by means of a pH-meter. Koll.shnr. 22
no.3:382-383 My-Je '60. (MIRA 13:7)

1. Institut neftekhimicheskogo sinteza AN SSSR, Moskva.
(Colloids) (Electrophoresis)